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PART# 120040

Ny-Trex NITROUS

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rev. 20120614

Ny-Trex NITROUS

OWNER'S MANUAL

CONGRATULATIONS

ON THE PURCHASE OF YOUR NY-TREX NITROUS OXIDE PERFORMANCE SYSTEM

NOTICE: Installation of Ny-Trex performance products signifies that you have read this entire document and all warnings and agree to all the terms stated within.

Ny-Trex assumes no responsibility for damages or injury occurring from accident, misuse, abuse, improper installation, improper operation, lack of reasonable care and handling, or all subsequently stated reasons resulting from incompatibility with other manufacturer's products.

Do not use or operate this or any other Ny-Trex product on public roads or highways. Ny-Trex neither recommends or condones the use of products manufactured or sold by Ny-Trex on vehicles, which may be driven on public roads or highways, and assumes no responsibility for damages or injury incurred by such use.

Ny-Trex assumes no responsibility or liability for damages or injury incurred by the use of products manufactured or sold by Ny-Trex on vehicles used for competition or racing.

It is the purchaser's and installer's responsibility to follow all instructions, guidelines, warnings, and safety procedures supplied with the product as it is received by the purchaser or installer, and to determine the compatibility of the product with the vehicle or the device the product is to be installed.

Safety Tips

Read and carefully follow all warnings, cautions, safety tips and instructions before Installing or using any Ny-Trex products.

Ny-Trex system components are made of top quality materials and are designed with the highest regard for safety. If you have any questions regarding the performance or safety of your system, call Ny-Trex Technical Service at: 1-800-264-9472.

While nitrous oxide is legal for use in most states when used in accordance with state and local traffic laws and sanctioned racing rules and guidelines,

Ny-Trex does not recommend or condone the use of its products on any public roads, highways or in any illegal racing activity.

Ny-Trex has not pursued California Air Research Board (CARB) exemptions for these kits; hence, they are not legal for use on pollution-controlled vehicles in California. A correctly installed Ny-Trex Nitrous Oxide Performance System should not alter the emission control performance of your vehicle, under standard EPA test cycle conditions.

CAUTION! The Ny-Trex Universal 4 & 6 Cylinder Nitrous Oxide Performance Kits are not intended for use on hatchback type vehicles without the use of an External Aluminum Blow-Down Tube and Racer Safety Pressure Relief Cap.

HAZARDS DEFINED

This manual provides step-by-step instructions that describe the process of installing your Ny-Trex Nitrous Oxide Performance System. These procedures provide a framework for installation and operation of this kit. All parts within this installation kit, are referenced by name and number(#) to avoid confusion during installation.

Within the instructions, you are advised of potential hazards, pitfalls, and problems to avoid. The following examples explain the various hazard levels:

- **WARNING!** Failure to comply with instructions may result in injury or death.
- **CAUTION!** Failure to comply with instructions may result in damage to equipment.
- **NOTE:** This information is important, needs to be emphasized, and is set apart from the rest of the text.
- **HINT:** These special instructions provide a handy work tip.

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Everything you need to purge. Tubing, fittings, brackets, mounting hardware, switch, and connectors.

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Single or Dual quick-release with carry handle.

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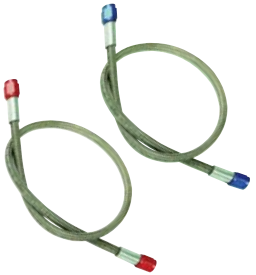
Custom Liquid filled, 0-1500 PSI high pressure gauge.



Stainless Braided Lines
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Flows up to 300 HP.

Fuel Pressure Safety Switch
Prevents engine damage due to low fuel pressure.

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Ny-Trex Trans-Fill System
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Be Cool, Don't Drink and Drive
"It will only slow you down"

NOTES:

Safety Tips

Read and carefully follow all warnings, cautions, safety tips and instructions before installing or using any Ny-Trex product.

WARNINGS!

1. Do not attempt to start the engine if the nitrous has been injected while the engine was not running. Disconnect the coil wire and turn the engine over with the throttle wide open for several revolutions before attempting to start. Failure to do so can result in extreme engine damage.
2. Never permit oil, grease, or any other readily combustible substances to come in contact with cylinders, valves, solenoids, hoses, and fittings. Oil and certain gases (such as oxygen and nitrous oxide) may combine to produce a highly flammable condition.
3. Never interchange nitrous and fuel solenoids. Failure to follow these simple instructions can result in extreme engine damage and/or personal injury.
4. Never drop or violently strike the bottle. Doing so may result in an explosive bottle failure.
5. Never change pressure settings of safety relief valve on the nitrous bottle valve. Increasing the safety relief valve pressure settings may create an explosive bottle hazard.
6. Identify the gas content by the label on any bottle before using. If the bottle is not identified to show the gas contained, return the bottle to the supplier.
7. Do not alter or remove any markings on the nitrous bottle.
8. Nitrous bottle valves should always be closed when the system is not being used.
9. Notify the supplier of any condition, which might have permitted any foreign matter to enter the valve or bottle.
10. Keep the valves closed on all empty bottles to prevent accidental contamination.
11. After storage, momentarily open the nitrous bottle valve to clear the opening of any possible dust or dirt.
12. It is important that all threads on the valves and solenoids are properly mated. Never force connections that do not fit properly.
13. **Never use an open flame to heat a nitrous bottle. Explosive bottle failure could occur and cause serious injury or death.**

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Troubleshooting Guide

Problem	Possible Cause	Diagnose Problem	Correct Problem
No change in performance when system is activated	Malfunctioning arming switch	Turn arming switch to "ON" position. Connect 12v test light to ground and check for power on both terminals of switch.	Replace arming switch
	No power to arming switch	Connect 12v test light to ground. Check for power at "Keyed 12v" terminal.	Repair wiring
	Loose Ground wire	Connect 12v test light to battery(+). Check for continuity at all grounds (Fig. 14.A).	Tighten/repair any loose grounds
	System wired incorrectly	Compare all wiring and connections to that on Fig. 14.A.	Wire systems per instructions
	Malfunctioning WOT switch	Disconnect "red" power relay wire from WOT switch. Connect 12v test light to ground, turn on arming switch. Manually activate WOT switch. Check for continuity at WOT switch terminal.	Replace WOT switch
	Overly rich fuel condition	Check for black smoke or back-firing through exhaust.	Install smaller fuel jet or decrease fuel pressure
Engine detonates heavily when system activated	Not enough fuel. Clogged filter or crimped line	Inspect filter and line.	Clean filter or replace line
	Weak fuel pump	Check fuel pressure gauge while engine is running under load and wide-open throttle. Fuel pressure should be within 5psi of idle pressure.	Repair/replace fuel pump
High RPM misfire when system activated	Bad spark plugs or improper gap	Inspect spark plugs.	Replace plugs/set gap at .030" to 035"
	Weak ignition or ignition component failure	Inspect all components, plug wires, distributor cap, etc.	Replace worn or faulty components
Surges under acceleration when system activated	Inadequate supply of nitrous	Check bottle weight (24 lbs. 12 oz. Full; 14 lbs. 12 oz. Empty).	Replace or fill nitrous bottle
	Bottle mounted incorrectly	Check bottle orientation (Fig. 10.A).	Mount bottle properly

Troubleshooting Guide

Problem	Possible Cause	Diagnose Problem	Correct Problem
Engine speed changes when opening or closing bottle valve	Faulty nitrous solenoid	Remove, clean and inspect solenoid.	Disassemble, clean, repair or replace solenoid
Engine runs rich when system is activated	Bottle valve not open	Check bottle valve.	Open valve fully
	Bottle mounted Improperly	Check bottle orientation (Fig. 10.A).	Mount bottle properly
	Plugged nitrous line or nitrous jet	Inspect lines and jets.	Clean debris or replace
	Low bottle pressure	Check bottle tempera-ture.	Keep bottle temp at 75-85°F
	Insufficient nitrous supply	Weigh bottle (24 lbs.12oz. Full, 14 lbs.12 oz. empty).	Fill bottle
	Mismatched N_2O/ fuel jetting	Compare jetting to jet chart (Fig. 6.A).	Install correct jets
	Excessive fuel pressure	Check pressure with fuel pressure gauge during acceleration with system activated.	Regulate pressure down, or install smaller fuel jetting
	Loose nitrous solenoid wiring	Inspect solenoid wiring.	Repair wiring
	Malfunctioning nitrous solenoid	Turn off engine. Discon-nect nitrous outlet line. With bottle open, activate nitrous solenoid. Nitrous should discharge at high rate. **WARNING! Do not inhale nitrous or allow skin contact. Frostbite, serious injury or death could occur.**	Rebuild or replace solenoid
Engine detonates mildly when system is activated	Excessive ignition timing	Check ignition timing	Reduce ignition timing in 2 degree increments
	Inadequate octane fuel		Use higher octane fuel
	Spark plug heat range to high		Reduce spark plug heat range (max. 2 steps)
	Too much nitrous flow		Reduce nitrous jetting

Tools Needed

Do Yourself a Favor and Round Up These Tools Before You Begin the Installation

	TOOL	PURPOSE	CHECK
1	10" Crescent Wrench	Tighten Bottle Nut	
2	3/8" Box End Wrench	Tighten Nozzle Hose Fitting	
3	7/16" Box End Wrench	Tighten Nozzle Hose End	
4	1/2" Box End Wrench	Tighten Nitrous Supply Line	
5	9/16" Box End Wrench	Tighten Fuel Supply Line	
6	Flat Blade Screwdriver	Tighten Hose Clamps	
7	#1 Phillips Screwdriver	Install WOT Snap Switch/ Toggle	
8	#2 Phillips Screwdriver	Install Solenoids to Mounting	
9	1/4" Nut Driver	Tighten Nut on WOT Snap Switch	
10	3/16" Drill Bit	Drill Pilot Holes For Brackets	
11	1/2" Drill Bit	Drill Holes For Well Nuts	
12	9/16" Drill Bit	Drill Hole For Nozzle Fitting Adapt-	
13	3/8" Drive Ratchet	Install Brackets	
14	7/16" Socket / Wrench	Install Solenoid Mounting Bracket	
15	3/8" Socket / Wrench	Install Bottle Bracket Bolts	
16	Wire Strippers	Strip and Cut Wiring	
17	Wire Crimpers	Crimp Butt / Terminal Connectors	
18	Dyke Pliers	Cut Wire & Tie Wraps	
19	Battery or Electric Drill	Drill Holes	
20	Needle Nose Pliers	Bend WOT Switch Tab	
21	Shop Towels	Absorb Fuel Spillage	
22	Tap Handle	Tap 1/16" NPT for Fuel Connection	

NOTE: You will also need other tools based on your particular vehicle. Common tools include metric wrenches and sockets. Also, you may need a floor jack and stands to insure safe access to the under-side of the vehicle.

Introduction

General Information

This system is designed to be used on both late model EFI and early model carburetor systems with stock fuel pumps. For those that have an aftermarket ECU or ignition that advances timing, detonation could become a problem. However, these ECUs may still be used by retarding timing 1-1.5 degrees per 50HP increase or using a higher octane fuel.

NOTE: Specific application numbers have the appropriate base jetting for either EFI(@45psi) or low pressure carbureted systems (@6.5psi).

CAUTION! It is the responsibility of the Purchaser or Installer to insure proper jetting and tuning for safe and reliable operation. Continued detonation will cause severe engine damage. When tuning your nitrous system above the recommended 75 HP increase, or adding dual stage nitrous, a high capacity aftermarket fuel pump must be installed and timing retarded (2 to 4 degrees).

System Requirements

Ny-Trex kits are designed for safety and smoothness of operation. When used correctly, these kits will work with stock internal engine components.

To ensure proper performance and engine life, the following requirements must be satisfied:

- **Manual Transmissions** If the vehicle is exposed to severe operating conditions, such as drag strip use, the standard clutch should be replaced with a high-performance unit.
- **Automatic Transmissions** If the vehicle is exposed to severe operating conditions, such as drag strip use, a reputable high-performance transmission shop should service the transmission.

Nitrous oxide is injected only when the following conditions are met:

1. **Bottle Valve is Open**
2. **System is Armed**
3. **Engine is at Wide-Open Throttle**

Drivability, fuel economy, and exhaust emissions should not be affected under normal part-throttle conditions.

FIGURE 6.A **Baseline Jetting Chart**

EFI Wet Nozzle

	HP	40 psi N2O	40 psi Fuel	45 psi N2O	45 psi Fuel	50 psi N2O	50 psi Fuel	60 psi N2O	60 psi Fuel
Single Nozzle	35	31	20	31	18	31	16	31	14
	50	35	21	35	20	35	18	35	16
	75	41	26	41	24	41	20	41	18
	100	52	31	52	28	52	26	52	24
	125	57	33	57	32	57	31	57	28
	150	62	36	62	35	62	34	62	32
	175	67	41	67	38	67	36	67	35
	200	73	41	73	40	73	38	73	36
	250	82	48	82	46	82	44	82	42
Dual Nozzle	75	31	20	31	18	31	16	31	14
	100	36	22	36	20	36	18	36	18
	125	41	24	41	22	41	20	41	18
	150	44	26	44	24	44	22	44	20
	175	48	28	48	26	48	24	48	22
	200	52	31	52	28	52	26	52	24
	250	57	33	57	32	57	31	57	28
	300	62	36	62	35	62	34	62	32
	350	67	41	67	38	67	36	67	35
	400	73	41	73	40	73	38	73	36

Spray Plate

	HP	6.5 psi N2O	6.5 psi Fuel	8 psi N2O	8 psi Fuel	10 psi N2O	10 psi Fuel
Single Spray Bar	50	36	33	36	31	36	28
	75	44	40	44	38	44	36
	100	52	46	52	44	52	41
	125	57	52	57	48	57	46
	150	62	57	62	54	62	52
	175	67	62	67	57	67	54
	200	73	67	73	62	73	57
	250	82	73	82	67	82	62
	300	88	82	88	73	88	67
Dual Spray Bar	75	31	28	31	26	31	24
	100	36	33	36	31	36	28
	125	41	36	41	35	41	33
	150	44	40	44	38	44	36
	175	48	44	48	41	48	38
	200	52	46	52	44	52	41
	250	57	52	57	48	57	46
	300	62	57	62	54	62	52
	350	67	62	67	57	67	54
	400	73	67	73	62	73	57

Direct Port

	HP	45 psi N2O	45 psi Fuel	6.5 psi N2O	6.5 psi Fuel	10 psi N2O	10 psi Fuel
Four Nozzle	100	26	14	26	24	26	21
	125	28	16	28	26	28	22
	150	31	18	31	28	31	24
	175	35	20	35	31	35	28
	200	36	20	36	33	36	28
	250	41	22	41	36	41	33
Six Nozzle	125	24	14	24	21	24	18
	150	26	16	26	24	26	22
	175	28	16	28	26	28	24
	200	31	18	31	28	31	26
	250	33	20	33	31	33	28
	300	36	22	36	33	36	31
Eight Nozzle	150	22	12	22	20	22	18
	175	24	14	24	21	24	18
	200	26	16	26	24	26	22
	250	28	16	28	26	28	24
	300	31	18	31	28	31	26
	400	36	20	36	33	36	28

NOTE: Baseline calculations at 900 psi bottle pressure, N_2O-to-Fuel ratio at 5.5:1, fuel specific gravity of .740. Baseline jetting targets 11:1 air-to-fuel ratio. (Results may vary upon engine type). It is recommended to start with the lowest HP increase to test the system and compatibility. Move up in HP only after you are confident your components are capable of the increase and you have checked the system for any leaks or potential hazards.

Electrical Hook-Up

3. **The Activation Arm** is the extra long metal lever on the WOT switch. This allows you to twist, bend, shape or cut it to aid in the ease of installation. Use needle nose pliers to form a suitable shape and position. Adjust the position to insure the WOT switch "clicks" at the same point the throttle linkage reaches wide-open throttle against the throttle stop.

HINT: Try to bend loops or double over before cutting the metal lever. This will add strength and allow for future adjustments.

4. **Attach an 18-gauge Jumper Wire** using "Red" wire and spade connectors provided (29). Attach from remaining terminal on Arming switch (25) to either of the terminals on the WOT switch.

NOTE: Test the WOT switch action. Check for binding or anything that may impede the throttle action. Zip tie wire away from any cables or linkage.

CAUTION! Improperly mounted WOT switch can cause throttle to hang and create a dangerous "stuck-throttle" condition. Ensure that the WOT switch does not interfere with normal throttle linkage operation.

Relay Installation

1. **Mount Relay** (26) on firewall or location within reach of components.
2. **Connect to Relay** Using "Red" 18 gauge wire supplied with the system, connect the remaining wide-open-throttle terminal to the 86 terminal on the supplied heavy duty relay plug (26) See wiring diagram Fig. 14.A)
3. **Power the Relay** Connect "Black" 14-gauge wire supplied , to the "BAT" terminal of the alternator or the positive (+) terminal of the battery, then connect to the 87-terminal on the heavy duty relay plug (26) (If desired, a 40 amp fuse may be installed here)
4. **Connect the Solenoids** Attach both "Red and Blue" wire from each of the solenoids to the 30 terminal on the relay plug (26). Attach the two remaining "Black" solenoid wires to a good ground. (The solenoid coils have diodes. Carefully observe polarity (Red, Blue +) (Black to ground)
5. **Ground the Relay** Attach 85-terminal from relay to fuel pressure safety switch (31) terminal marked (NO). Using 18 gauge white wire, attach the terminal on fuel pressure safety switch marked (C) to ground. (Fig. 14.A)

NOTE: If fuel pressure switch is not used, simply attach the "White" wire on the relay Plug (26) to ground.

Connect Battery Cable

2. **Test Solenoids** for proper operation. Be sure the nitrous bottle valve is OFF and no pressure is in the supply line. If using a fuel safety switch, you must use a jumper wire between the NO and C terminals while testing the solenoids. To test, turn the Arming Switch ON, and push the "activating" WOT switch. A click will be heard when the solenoids open.
3. **CAUTION!** Make sure that both of the solenoids are clicking! If no sound is heard or only one solenoid is working, check wire connections and refer to the wiring schematic (Fig. 14.A) for proper connections.
4. **Check All Components** With feed lines and electrical connections completed and nitrous supply line connected to the bottle, FULLY open the bottle valve and carefully check connections on the nitrous side of the system for leaks. Re-tighten fittings if necessary. **With no leaks detected**, start engine and thoroughly check fuel connections for leaks.
5. **Have Fun and Be Safe** Remember to always obey all your state and local motor vehicles laws and regulations. Only race in sanctioned racing venues and events that have proper safety equipment and adequate medical facilities. Never use Ny-Trex or any nitrous oxide equipment on public roads or highways.

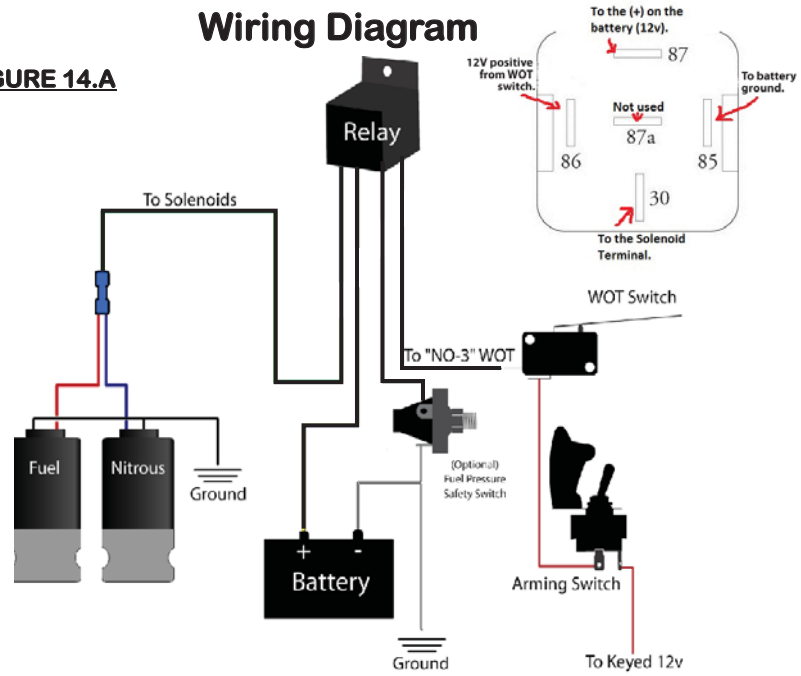
Electrical Hook-Up

Arming Switch Installation

1. **Disconnect The Battery**
2. **Mount The Arming Switch** (25) in a location that is within easy reach and in plain sight of the driver.
3. **Connect 12v Lead** Using 18-gauge "Red" wire and connectors provided (29), connect "12v DC Positive" from the fuse panel to one terminal of the Arming switch. (Use a 5 amp in line fuse if desired). This power source must be fused and controlled by the ignition.

Wiring Diagram

FIGURE 14.A



WOT Switch Installation

1. **The Wide Open Throttle Switch** Is a universal micro-switch designed to work with the universal mounting bracket (17). The capacity is 10 amps and should only be used to activate low amp draw accessories in conjunction with the relay (26).
2. **Mount The WOT Switch** using bracket (17) with 3/4" 4-40 screws and nuts. By flipping the bracket and switch, the switch can be mounted in a variety of different configurations. Select the most suitable position and tighten the screws. (Do not over-tighten the screws, the plastic micro-switch can be damaged).

NOTE: The Mounting Bracket (17) is made of easily bendable material and may be formed to any configuration that will allow placement of the WOT switch in the proper location. (While typical location of WOT switch mounting is at throttle valve located on the engine, some may find it more accessible to mount under dash at the gas peddle linkage).

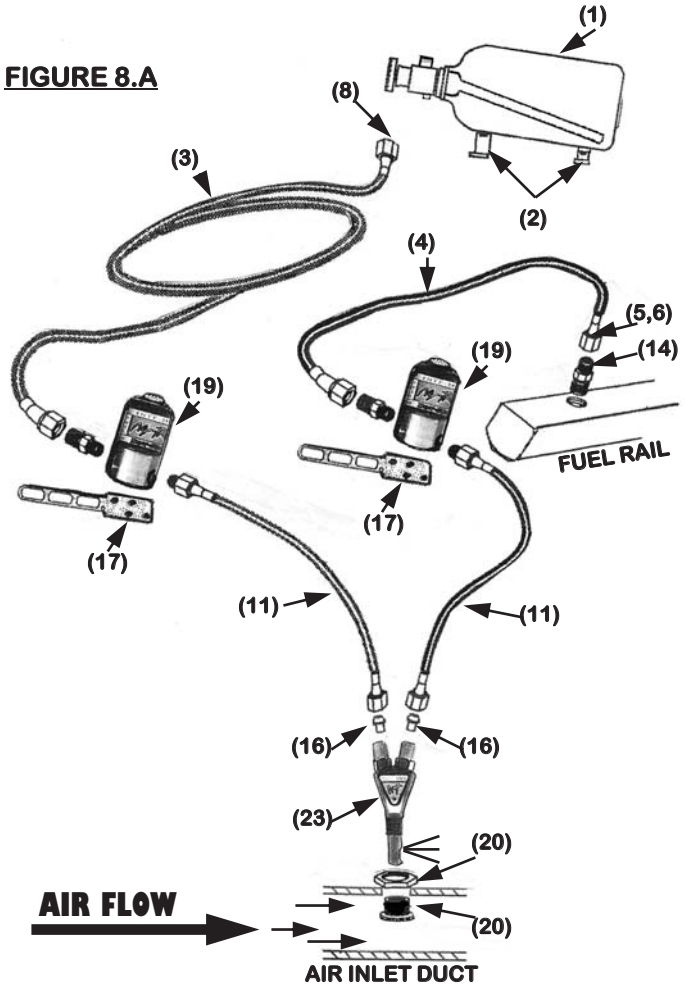
Before You Begin

ALWAYS	NEVER
• Read all instructions before you begin installing your Ny-Trex Nitrous Oxide Performance System.	• Never begin installing or using any Ny-Trex products without carefully reading all safety tips and warnings.
• Check your fuel system for adequate pressure and flow for the jets you have chosen.	• Never operate your nitrous system with inadequate fuel flow as serious engine damage will occur.
• Use a minimum of 14 gauge wire and high quality connections when installing electrical components.	• Never use improper wire such as speaker wire, bare wire, solid wire, or any wire not approved for automotive use.
• Use Teflon based paste on NPT pipe style fittings. Check for leaks at all nitrous and fuel connections.	• Never use sealer on AN flare style fitting. Never use thread tape on any fittings.
• Make sure that your engine and all related components are in safe and proper working condition.	• Never install or operate nitrous system with inadequate ignition components, fuel system , brakes or driveline.
• Use nitrous system above 3000 RPM or at Wide-Open-Throttle only. Failure to do so could result in explosion and severe damage to engine.	• Never start engine when nitrous has been injected accidentally without engine running. Turn off nitrous, disconnect coil and crank engine for 10-15 sec. before starting engine.
• Check and install proper engine to chassis ground. Failure to do so could cause explosion of main nitrous supply line.	• Never allow nitrous line to come in contact with hot engine, exhaust, electric current, or any ignition components. Explosion could occur.
• Use high-quality fuel and suggested jetting combinations. Clean up any spilled fuel before starting engine.	• Never allow nitrous bottle to exceed 1100 PSI. Never use methanol based fuel or octane booster.
• Only use a CGA approved nitrous oxide filling station. Firmly secure nitrous bottle when transporting.	• **Never breathe nitrous oxide. Never let nitrous contact skin. Death due to suffocation or frostbite could occur.**
• Thoroughly check for fuel leaks after installation .	• Never heat the nitrous bottle with an open flame. Explosion and serious injury or death could occur.

System Overview

The following illustration shows the individual Ny-Trex nitrous components and their relationship. Take a moment to familiarize yourself with each part by using the reference number and the component list on the following page (Fig. 9.A).
These reference numbers will be used thru out the manual to help you identify the components during installation.
HINT: To speed installation time, after unpacking place components in the same arrangement as shown in Fig. 9.A. This will allow you to identify and reference the components as you work thru the step by step installation process.

FIGURE 8.A



Fuel Supply Connections

NOTE: After determining the most suitable fuel connection, make certain that the fuel system has adequate flow and pressure, and that you are tapping into the high pressure line, not the return line.

HINT: Refer to vehicle service manual or consult qualified technician.

WARNING! **The fuel rail and fuel lines are under high pressure!** Use extreme caution when disconnecting any fuel line. Do not open fuel ports or lines while the engine is hot. Quickly collect and properly dispose any fuel spillage. Certain vehicles have hard plastic fuel lines with a rubber-like shell, **Do Not** cut or splice this type of line as leak proof seal cannot be assured. Failure to comply could cause engine damage, injury, or death.

1. High Pressure Fuel Line Connection. (Rubber Hose Only!)

Locate the high pressure fuel line (not return line) and choose a location between the fuel filter and the EFI fuel rail. Using caution, cut the hose and install the barbed fuel tee (7) and supplied clamps (5). Tighten clamps securely. Absorb any spilled gas with shop rag.

2. Factory Fuel Test-Port Connection.

Figure 12.A Located on the Fuel Injector Rail is a "test-port" fitting used by technicians to check fuel pressure. This port is usually covered with a protective plastic cap. Remove the protective cap from the test-port. Observing caution and shop rags to absorb any spilled gas, use a valve stem core remover or needle nose pliers to remove the Schrader Valve from the connector fitting. Install fuel supply line (4).

NOTE: Most Fords and some imports will require the entire test-port to be removed and replaced with the supplied 1/16 x-4 fitting (14). Be sure to check the compatibility of the fitting on the fuel line.

NOTE: Many late model vehicles have similar ports that do not give access to fuel.

3. Fuel Rail or Banjo Fitting Connection.

Figure 12.A & B Locate the high pressure fuel line that connects to the fuel rail or distribution block. Determine the most suitable type of connection, either tapping into banjo fitting, or tapping into fuel rail.

- **To Tap Banjo Fitting** (Fig. 12.B) Observing caution and shop rags to absorb any excess spilled gas, remove fuel line. Place Banjo bolt securely in vise. Mark and center punch the Banjo bolt head. Drill a small pilot hole, then follow up with the 1/4" drill supplied (13). Tap hole with 1/16 NPT tap supplied (15). Install 1/16x-4 fitting (14).

- **To Tap Fuel Rail** (Fig. 12.A) Observing caution and shop rags to absorb any excess spilled gas, remove the fuel rail. Remove all injectors, regulators, and fittings that may trap debris. Clamp fuel rail securely in vise, mark and center punch the most suitable location (must have enough wall thickness to achieve 3 to 4 threads of engagement). Drill small pilot hole, then follow up with 1/4" drill supplied (13), tap hole with 1/16 NPT tap supplied (15). Install 1/16x-4 NPT fitting (14).

CAUTION! All debris must be removed from fuel rail and fittings. Failure to do so could cause injector failure and engine damage. Check for fuel leaks before starting engine.

NOTE: Use of compressed air is an effective cleaning method. Use Teflon thread sealer (12) on all NPT pipe threads. Never use thread tape!

Replace all parts in reverse order and check for leaks.

Fuel Supply Connections

Determine Type of Connection

There are 3 possible ways to tap into the factory fuel system.

1. Splicing into the rubber high pressure fuel line and installing fuel tee (not shown).
2. Tapping into factory fuel "Test-Port" (Fig. 12.A).
3. Drill and tap Fuel Rail or Banjo fitting and installing 1/16x-4 fitting (Fig. 12.B).

FIGURE 12.A

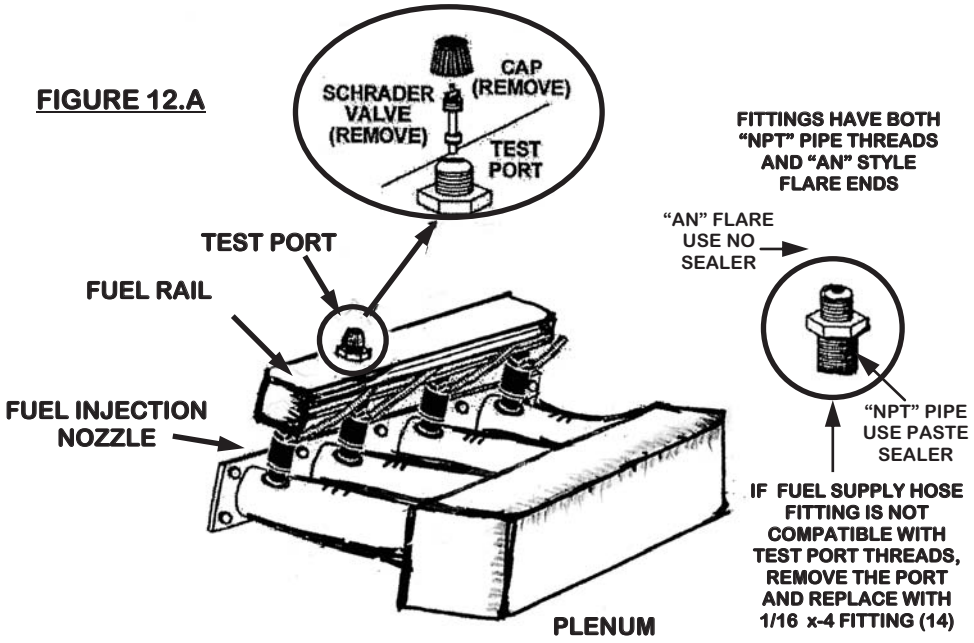
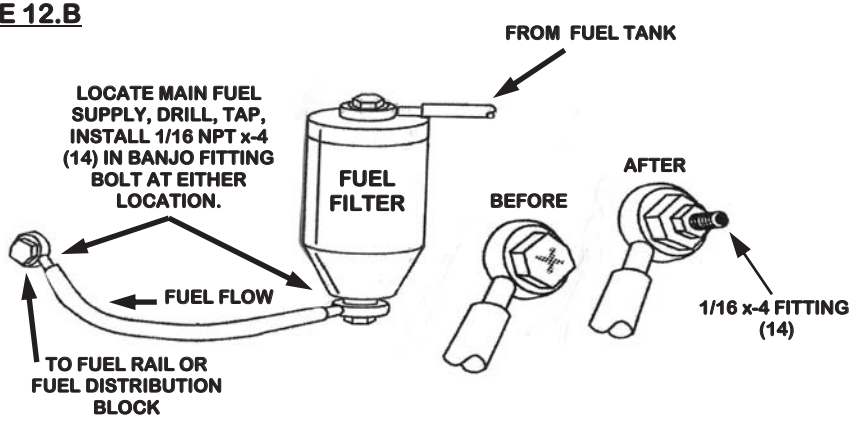

SCHRADER VALVE (REMOVE)
CAP (REMOVE)
TEST PORT
TEST PORT
FUEL RAIL
FUEL INJECTION NOZZLE
PLENUM
FITTINGS HAVE BOTH "NPT" PIPE THREADS AND "AN" STYLE FLARE ENDS
"AN" FLARE USE NO SEALER
"NPT" PIPE USE PASTE SEALER
IF FUEL SUPPLY HOSE FITTING IS NOT COMPATIBLE WITH TEST PORT THREADS, REMOVE THE PORT AND REPLACE WITH 1/16 x-4 FITTING (14)

FIGURE 12.B


FROM FUEL TANK
LOCATE MAIN FUEL SUPPLY, DRILL, TAP, INSTALL 1/16 NPT x-4 (14) IN BANJO FITTING BOLT AT EITHER LOCATION.
FUEL FILTER
BEFORE
AFTER
FUEL FLOW
1/16 x-4 FITTING (14)
TO FUEL RAIL OR FUEL DISTRIBUTION BLOCK

Component Overview

(Triple Threat 4 & 6 Cyl Wet Nitrous System shown - Other applications may vary)

Figure 9.A

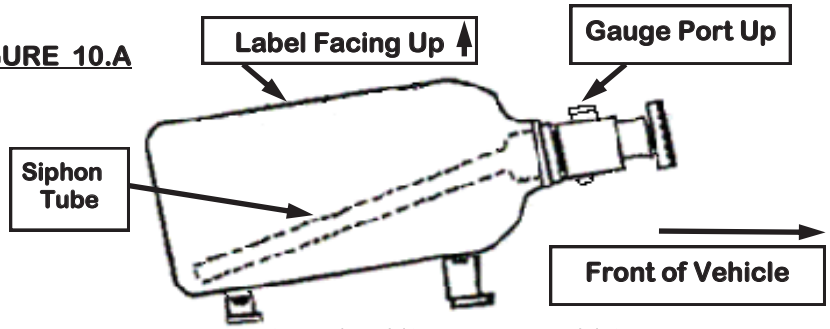
ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY
1	Nitrous Bottle	1	16	Jet Assortment	Set
2	Bottle Brackets	2	17	Solenoid/WOT Brackets	3
3	14' Nitrous Feed Line	1	18	Dual Gauge Port Adapter	1
4	Black Fuel Supply Line	1	19	Triple Threat Solenoid	1
5	Hose Clamps	3	20	Nozzle Adapter	1
6	1/4 x -4 Hose Fitting	1	21	Purge Switch	1
7	Barbed Fuel Tee	1	22	Bottle Gauge	1
8	Bottle Nut	1	23	N-T Nozzle	1
9	Nylon Washer	1	24	Purge Kit	1
10	Nuts/Bolts/Washers	Set	25	Arming Switch	1
11	22" Blue Nitrous Line	1	26	Relay & Harness	1
	22" Red Fuel Supply Line	1	27	Solenoid Harness	1
12	N-T Thread Sealer	1	28	Zip Ties	12
13	1/4" Drill Bit	1	29	Wire Connectors	Set
14	1/16 NPT x -4 AN Fitting	1	30	Wire	Set
15	1/16" NPT Tap	1	31	Fuel Pressure Switch	1

Bottle and Feed Line Installation

Bottle Installation

1. **Insert Nylon Washer** (9) into bottle nut (4) and securely tighten onto the bottle valve.
2. **Mount Bottle Brackets** (2) to Bottle (1). Position label and gauge port facing up and mounting brackets down. Place on level surface and tighten clamps at proper position. You are now ready to trial fit bottle in place.
3. **Locate Mounting Area** using the bottle unit as a pattern. Locate a suitable mounting area in the trunk that will provide for easy access to bottle valve, hose connection, and bottle removal.
   NOTE: Longer wheelbase vehicles should consider routing nitrous feed line (3) first to assure adequate length before permanently mounting bottle.
4. **Mark and Drill Holes** Check area below for obstructions such as **gas tank** or wiring, then drill pilot holes with 3/16" drill bit followed by 1/2" bit.
5. **Insert Well Nuts** (10) into holes, check alignment with bottle unit.
   NOTE: Well Nuts are the Black rubber inserts provided (10) and are to be used when there is no access from the bottom of vehicle. If full access to underside is available, use 3/8 bolts, nuts and washers (not included).
6. **Install Bottle** with 1/4 x 20 shoulder bolts (10) and tighten securely. Be careful not to over tighten. Test by rocking side to side. Bottle should stay firmly in place.
   NOTE: It is important to have the **label and gauge port facing up** and the tank valve facing forward to insure that the internal siphon tube will pick up liquid nitrous. (Fig. 10.A)

FIGURE 10.A



Routing the Nitrous Feed Line

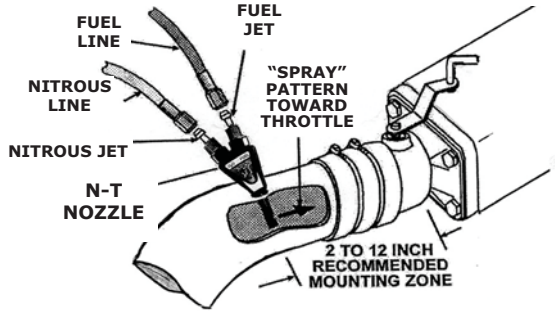
1. **Determine The Best Routing Path** from the engine compartment to the trunk, either through the passenger compartment or the underside of the vehicle.
   NOTE: Longer wheel base vehicles need to consider the shortest routing path to assure adequate hose length. Look for short-cuts such as routing under carpets, factory holes under rear seat, behind body panels, etc.
   CAUTION! Do not route nitrous feed line(3) near exhaust, any hot surface, or moving suspension component. Whenever possible, route **behind** any heat shield or protective panels.
2. **To prevent flow restrictions,** route the feed line(3) carefully. If routed under the vehicle, locate and drill a hole near the bottle valve for nitrous feed line, or use factory access plug if possible.
3. **Route the Feed Line** (3) to engine compartment. Following the factory fuel line is usually a good path. Use zip ties (28) to secure the feed line, taking care to keep away from any hot wire or any hazard such as hot exhaust, driveline, or moving suspension components.
   HINT: Cover line ends with tape to prevent debris from entering feed line during the routing process.

Nozzle & Solenoid Mounting

Nozzle Mounting

1. **Determine Mounting Location** Identify air inlet duct located between throttle body and mass air flow sensor, air filter, or cold air inlet**.** Choose suitable location between 2" to 12" from throttle body inlet. Mark location.
   NOTE: Exact location is not crucial, however, avoid any sharp bends or obstructions. Choose location that will accommodate the solenoids and injector lines without putting tension on the lines or nozzle.
2. **Remove Air Inlet Duct** located between throttle body and air filter.
3. **Rubber or Hard Plastic** Drill or cut 9/16" hole in the chosen location and install nozzle adapter (20) from inside of duct and adapter nut (20) to outside.
4. **Metal Mounting Surface** If mounting material is thick enough for adequate thread engagement (3 threads or more), drill with a 21/64" bit and tap with a 1/8 NPT pipe tap. Install nozzle without adapter. For thinner material use same procedure as rubber or hard plastic (above).
   NOTE: Clean all debris from duct before replacing. Use a silicone type sealer around nozzle adapter to prevent leaks. Make sure spray nozzle is facing throttle body. (Fig. 11.A)
5. **Install N-T Nitrous Nozzle** (23) Mount nozzle with spray pattern facing toward throttle body. Install fuel jet(16) & Red fuel line (11) to nozzle fitting nearest throttle body. Install nitrous jet(16) and Blue nitrous line (11).

FIGURE 11.A



Solenoid Mounting

1. **Install solenoid fittings**(where applicable) Secure solenoids in vise or with pliers to prevent turning, install 1/8 x-4 fitting to the "IN" port and the 1/8 x-3 to the "OUT" port using thread sealer provided and tighten with wrench.
   HINT: Place shop rag in vise or pliers to prevent scratching valve body.
   CAUTION! Do not clamp coil part of solenoid valve. Damage could occur.
2. **Determine Mounting Location** With the two 20" braided lines (11) attached to the N-T nozzle (23), search for a suitable location within reach of lines observing orientation of fittings and lines. The firewall, side panel, or factory brackets are usually good mounting points.
3. **Mount Solenoids to Brackets** By flipping brackets, there are 4 possible mounting positions (2 per side, w/a). Determine best position, (consider the location of "IN"&"OUT" to lines/nozzle) and mount with supplied screws.
4. **Mount Solenoids** Bend brackets (17) into suitable mounting position and mount solenoids (close to each other, w/a) using supplied mounting screws (10), or factory bolt at selected location. Attach fuel and nitrous lines to solenoids and tighten securely. (Do not use sealer or tape on AN line fittings).
   CAUTION! Avoid any obstructions that may come in contact with solenoids or lines such as the hood, throttle cables, etc. Keep lines and hoses clear of engine, exhaust, or any hot surface. Check for leaks before starting engine.